

Appln No. 10/796,225
Amdt date October 5, 2007
Reply to Office action of July 10, 2007

REMARKS/ARGUMENTS

The above identified patent application has been amended and reconsideration and reexamination are hereby requested.

Claims 1-19, 21-32, and 34 are now in the application. Claims 20 and 33 have been canceled. Claims 28, 30 and 32 have been amended.

The Examiner has allowed claims 1-19 and 21-27.

Claims Rejections - 35 U.S.C. § 102

The Examiner has rejected Claims 32 and 34 under 35 U.S.C. § 102(b) as being anticipated by Makino (US 2002/0067127). Further, the Examiner stated in item #11 of the Office Action that Van Heusden et al. (US 2002/0014846) teaches that it is well known in the art for a sustain pulse frequency to be 1kHz to 1Mhz.

The Applicant's amended Claim 32 includes (underlining added for emphasis) "... wherein to maximize an efficacy of the plasma display panel a frequency of the sustain pulse supplied for sustaining the discharge cell in the driving circuit is greater than 500KHz and less than or equal to 1MHz due to electromagnetic interference." The Applicant submits that Makino does not teach the above limitation.

Makino, while providing for a drive frequency of 100kHz (paragraph [0014]) and several MHz (paragraph [0037]), and Van Heusden et al., while providing for a sustain frequency being at least 1 kHz and at most 1 MHz (see claim 5), do not provide the disclosed range with sufficient specificity to constitute an anticipation of the above limitation.

The present patent application discloses that the requisite sustain voltage decreases at a sustain pulse frequency greater than 500kHz (see Fig. 14) and that the efficacy is maximized at a sustain pulse frequency between 500kHz and 1MHz (see Fig. 16) due to electromagnetic interference. Given these unexpected results within the claimed narrow range, it is reasonable to conclude that the narrow range is not disclosed with sufficient specificity in Makino to constitute an anticipation of the claims (see MPEP 2131.03, section II).

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In item #11, page 8 of the Office Action, the Examiner disagrees because Claim 32 did not recite the argument that the efficacy is maximized at the particular frequency range. Accordingly, Claim 32 now recites the argument that the efficacy is maximized at the particular frequency range. Therefore, the Applicant submits that Claim 32 is not anticipated by Makino under 35 U.S.C. § 102(e).

Claim 34 is dependent on Claim 32 and therefore includes all of the limitations of Claim 32 and additional limitations therein. As such, this claim is also believed allowable based upon Claim 32 and the additional limitations.

Claims Rejections - 35 U.S.C. § 103

The Examiner has rejected Claims 28-29 under 35 U.S.C. § 103(a) as being unpatentable over Higashino et al. (US 7,030,839 B2) in view of Okada et al. (US 2002/0033677).

The Applicant's Claim 28 includes (underlining added for emphasis) "... applying a setup pulse for forming a first space charge at a selected discharge cell to the discharge cell; and establishing the first space charge formed by the setup pulse as a priming element, and applying a sustain pulse to the discharge cell, ... wherein the sustain pulse has a voltage level of a range for discharging the selected discharge cell when the priming element exists in the selected discharge cell." The Applicant submits that all of the limitations as claimed in Claim 28 are neither described in the Higashino et al. and Okada et al. references, nor result from a reasonable combination of their teachings.

Okada et al., while providing for applying a setup pulse during the setup period (paragraphs [0024], [0025]; FIG. 17), does not disclose the above limitation. In Okada et al., the setup pulse P_{rn} is applied during the setup period before the write period (see paragraph [0024] and FIG. 17). Thus, Okada et al. teaches applying the setup pulse P_{rn} to a discharge cell before the discharge cell is selected in the write period (see claim 4, "which applies a set-up pulse in a set-up period that precedes a write period"). Therefore, Okada et al. does not teach (underlining added for emphasis) "applying a setup pulse for forming a first space charge at a selected discharge cell to the discharge cell; and establishing the first space charge formed by the setup

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pulse as a priming element, and applying a sustain pulse to the discharge cell, wherein the sustain pulse has a voltage level of a range for discharging the selected discharge cell when the priming element exists in the selected discharge cell."

Accordingly, the Applicant submits that Claim 28 is patentable over Higashino et al. in view of Okada et al.

Claim 29 is dependent on Claim 28 and therefore includes all of the limitations of Claim 28 and additional limitations therein. As such, this claim is believed allowable based upon Claim 28 and the additional limitations.

The Examiner has rejected Claims 30-31 under 35 U.S.C. § 103(a) as being unpatentable over Homma (US 2003/0141824 A1) in view of Tokunaga et al. (US 6,900,782 B2).

The Applicant's Claim 30 includes (underlining added for emphasis) "... wherein a subfield includes an address period for forming wall charges at a discharge cell to be selected from among the discharge cells, and a sustain period for sustaining the selected discharge cell without using a memory function, the sustain period being subsequent to the address period, the method comprising: in the sustain period: applying a pulse for discharging the selected discharge cell to the discharge cells to generate priming; and applying a sustain pulse to the discharge cell to sustain the selected discharge cell by using the priming." The Applicant submits that all of the limitations as claimed in Claim 30 are neither described in the Homma and Tokunaga et al. references, nor result from a reasonable combination of their teachings.

Tokunaga et al., while providing for applying reset pulses to generate priming particles during the reset period, does not disclose the above limitation. In Tokunaga et al., application of the reset pulses occurs during the reset process Rc (column 9, lines 61-62; column 7, lines 63-66; column 8, lines 23-26; FIGs. 10-13 at bottom teaches that the reset pulses occur during the reset process Rc), which occurs before the address process Wc (see FIG. 2A and FIG. 2B; column 7, line 67 through column 8, line 1). Tokunaga et al. indicates that the sustain period is Ic (column 1, line 67 through column 2, line 1; column 2, lines 41-46; column 8, lines 11-14). Therefore, Tokunaga et al. does not teach (underlining added for emphasis) "in the sustain period: applying a pulse for discharging the selected discharge cell to the discharge cells to generate priming; and

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applying a sustain pulse to the discharge cell to sustain the selected discharge cell by using the priming."

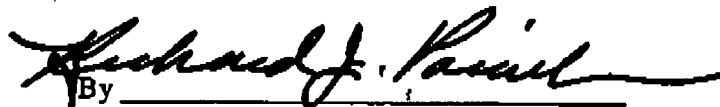
Accordingly, the Applicant submits that Claim 30 is patentable over Homma in view of Tokunaga et al.

Claim 31 is dependent on Claim 30 and therefore includes all of the limitations of Claim 30 and additional limitations therein. As such, this claim is believed allowable based upon Claim 30 and the additional limitations.

Therefore, in view of the above amendment and remarks it is respectfully submitted that the claims are patentably distinct over the prior art and that all the rejections to the claims have been overcome. As such, allowance of the above Application is requested. If there are any remaining issues that can be addressed over the telephone, the Examiner is cordially invited to call the Applicant's attorney at the number listed below.

Respectfully submitted,

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